

## A SURGICAL CRUTCH WITH ADJUSTABLE LEG-RESTS.

By F. TILDEN BROWN, M.D.,

OF NEW YORK.

AS an improvement upon the long-used Clover crutch, the apparatus here shown is offered. It has been tested for nearly a year at the Presbyterian Hospital, and found to possess the advantages described.

The main faults in the Clover crutch are the straight bar and the neck-strap.

The former seriously invades the operative territory. In urethrotomy it is near enough to the penis to encroach upon some part of the arc which the handle of a sound or grooved staff must traverse to enter or leave the urethra. It invariably causes the operator to use undue force and a false lateral position to crowd the handle of the instrument under the bar.

In operations upon the rectum, perineum, or vagina this straight bar, hung with sterilized cloths, shuts off light from the field of operation, and fills the space convenient for instruments.

The single neck-strap is faulty in that it exerts a considerable pressure upon the vessels and nerves of the neck, the deleterious effects of which are clearly marked in the congested state of the head and the unsatisfactory respiration during anæsthesia. These phenomena are particularly noticeable when the patient is flabby, plethoric, or alcoholic,—that is, it intensifies the dangers incidental to the anæsthetic state commonly noticed in just such cases.

To obviate these objections to the old apparatus, an extension bar, with right-angled elbows, continued into parallel arms, six inches long, has been substituted. These arms swivel in the collar of the metal leg-crutch. By this means the extension-bar

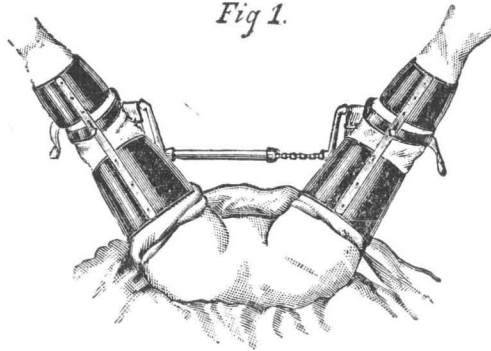
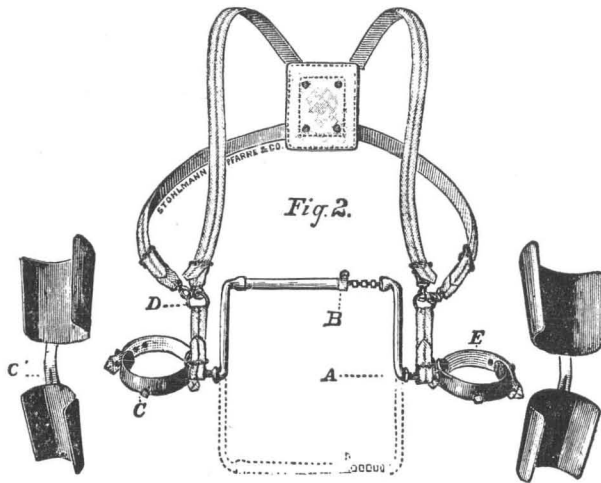
*Fig 1.**Fig. 2.*

FIG. 1.—Showing exposure of the perineum and position of the legs with the author's surgical crutch applied.

FIG. 2.—Component parts of the author's crutch.

- A. Point at which the arms of the extension-bar swivel in the leg-crutch.
- B. Spring pressed upon to close the extension-bar.
- C. Key on the leg-crutch which engages in the slot C<sup>1</sup> in the leg-rests and locks them together.
- D. The point where the two parts of the apparatus are joined by ring- and snap-catches when the crutch is on and the thighs are flexed.
- E. Canvas strap which buttons over when the leg lies in the crutch.

Dotted outlines show the position of the extension-bar if turned downward.

As only canvas straps and nickelled metal enter into the make-up of the apparatus, it can be washed and sterilized.

can be turned well out of the way. It is ordinarily kept flat upon the patient's abdomen. The former thumb-screw on the extension-bar has been replaced by a spring-catch, which, in spreading the thighs to the desired degree, is automatic, and maintains the position, the spring needing only to be pressed upon when the thighs are again to be adducted.

Instead of a single neck-strap with two buckles, as used in the original Clover, counter-extension is effected by both neck and side straps radiating from a back pad. When the thighs are once flexed, all of the traction should be maintained by the two side straps, no pressure at all being exerted upon the supra-clavicular region by the neck-straps.

To make the attachment and detachment of the straps and leg-crutches, rings and snap-catches are used, supplemented by buckles for tightening the harness when on, but only the two lateral straps should then be buckled up tighter; this wholly relaxes the neck-straps.

The drooping downward and inward of the feet is also troublesome; for while the knees are bent, the more the thighs are abducted, the greater the approximation of the feet. In the hospital amphitheatre, where it is particularly desirable to afford a large visual angle of the operative field, this encroachment of the feet and lower legs is quite annoying. To avoid this, extreme knee flexion must be prevented, and the leg-rests, which button on to the leg-crutches, are introduced to obviate it. These leg-rests are made of light metal, coupled by a slightly-angled strong steel brace. These permit the natural knee flexion necessary when the thighs are also flexed.

The feet and legs are now well out of the way of assistants and the eyes of the gallery. But this raising of the centre of gravity makes it more necessary than ever that a nurse should constantly steady the body, by standing at its side and holding the extension-bar as it lies on the patient's abdomen.

I desire to thank Mr. Brunner, of Tiemann & Co., who has been very attentive in perfecting the details of the apparatus.